

## New Parasitic Mites (Acarina).

By H. E. EWING and A. J. STOVER.\*

(Plate IV)

Parasitism is a phenomenon of quite frequent occurrence in the Acarina. Of the thirty or more families now recognized in the order, no less than seventeen contain species that are parasitic in their adult state; while three more contain species that have parasitic larvae. The number of parasitic species found in the order is very large, several hundred already being described. Yet, notwithstanding this large number of parasitic species, to say nothing of the enormous numbers of individuals that are frequently found upon a single host, up to the present practically no systematic work has been done upon them in this country, with the exception, of course, of the ticks.

In the following paper four new species are described. They are distributed among three genera, and as many families. So far, we have but a single species in each of these three genera recorded from our country. Hence these new additions are of rather special interest to those engaged in the study of mites. The determinations of the species described in this paper were made by Mr. Ewing. The drawings were made by Mr. Stover. Types in the collection of the senior author.

### DESCRIPTION OF SPECIES.

#### Fam. GAMASIDAE.

#### **Haemogamasus sanguineus** n. sp. (Text-fig. 1.)

Engorged specimen tick-like in shape, body appearing red with many black pellets contained inside showing through the skin.

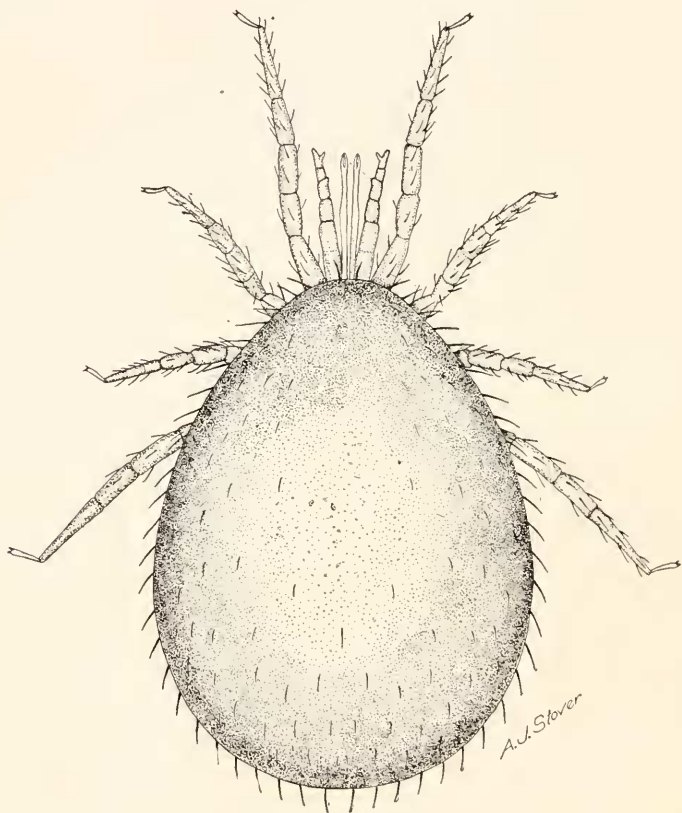
*Female*.—Mouth-parts moderate; palpi about one-half as long as the first pair of legs; chelicerae when extended reaching the tips of the palpi. Distal segment of palpus almost twice as long as the segment next to it, well clothed with hairs, and bearing a sharp, spur-like spine on its inner margin; penultimate segment slightly longer than broad, simple; antepenultimate segment about one and one-half times longer than penultimate, slightly produced anteriorly at its inner mar-

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gin. Chelicerae slender, both arms very tapering and adapted for piercing.

Cephalothorax not demarcated from abdomen. Body sparsely clothed with curved, sharp bristles. Most of these bristles have each, one or more small branches on the outer curved margin. On the anterior end of the body is situated a small pair of submedian straight bristles.



Text fig. 1.—*Haemogamasus sanguineus* n. sp.

Legs rather slender; first pair reaching beyond the tips of the palpi by the full length of the last two segments; fourth pair falling far short of the tip of the abdomen. Tarsus of leg I slightly longer than tibia, clothed with somewhat lengthened hairs; tibia subequal to genual. Leg II slightly, if at all, enlarged, somewhat longer and stouter than leg III. Tarsus of leg IV very long and tapering, about one and one-half times as long as tibia; tibia not as stout as

genual. Tarsal claws of all the legs rather small, and strongly curved. Total length of female, 0.96 mm.; width, 0.70 mm.

*Male*.---Not found.

From Ames, Iowa; taken from *Mus rattus* Linn. by H. E. Ewing.

An adult female and an immature individual obtained. This species differs from *H. americanus* Banks in having shorter and much stouter legs, in having larger mouth-parts, etc. The fourth pair of legs in *H. americanus* Banks extend beyond the tip of the abdomen; in *H. sanguineus* n. sp. they fall far short of the tip of the abdomen.

Fam. DERMANYSSIDAE.

**Liponyssus spiniger** n. sp. (Plate IV, Fig. 2.)

A rather large, dark brown species. Integument well chitinated. Body and appendages well clothed with prominent stout spines.

*Female*.---Mouth-parts only moderately prominent; palpi about one-half as long as first pair of legs, with simple segments and no large spines. Chelicerae slender.

Cephalothorax not demarcated from abdomen, strongly emarginate on its sides, and ending anteriorly in a medium papilla-like process. Dorsally the cephalothorax bears several pairs of very short, stout, slightly curved, sharp spines; one of these pairs is situated on the anterior papilla-like process, two pairs are situated laterally, and one pair is situated on the antero-lateral margin of the shoulders. Besides these short, stout spines, a longer straight pair is situated on the anterior aspect of the papilla-like process.

Abdomen about three-fourths as broad as long, broadest above the last pair of legs, and evenly rounded behind. Abdomen clothed with prominent spines; those on its dorsal surface rather short but sharp, those on the sides of abdomen large, stout, and slightly curved. On the posterior margin of abdomen is situated a single pair of spines, the longest pair found on the body. Anal plate about three-fourths as broad as long, broadest at its base and rounded at its tip; with but a single spine which is located on its posterior margin at the median line.

Legs stout, the first and second pairs subequal and stouter than the third and fourth pairs. Last pair of legs extending to the level of the posterior margin of the abdomen. All the legs well clothed with spines; the first legs each bear two enormous spines on the dorsal surface of the femur; the outer is slightly the larger and considerably longer than the segment from which it springs; above the inner at the

base of the patella is a prominent but much shorter spine. Each femur of the second pair of legs bears a long slender spine on its dorsal aspect; this spine is somewhat smaller than either of the enormous spines borne by the femora of the first pair of legs. All the legs bear rather prominent caruncles at the tips of their tarsi; tarsal claws rather weak. Total length of female, 0.77 mm.; width, 0.50 mm.

*Male*.—In general similar to the female, but smaller. Body broadest above the third pair of legs, instead of above the last pair, as is the case with the female. Sternal plate about twice as long as broad; genital opening situated about its width from the anterior margin of the genital plate. The sternal plate bears four pairs of long, straight, sharp, backwardly directed spines, situated as follows: One pair at the genital opening about one-half of the distance from the opening to the lateral margins of sternal plate, one pair on the lateral margins of the sternal plate opposite the second pair of legs, one pair situated on the lateral margins opposite the third pair of legs, and one pair situated sublaterally half-way between the third and fourth pairs of legs. Anal plate somewhat different from anal plate of female, its sides concave; it extends backward to the posterior margin of the abdomen.

Coxa of leg I, with a row of three stout spines along its lateral margin as is found in the female, but they are longer in the male; proximal spine considerably longer than the other two. Fourth legs extending beyond the tip of abdomen by about one-third their length. Total length of body, 0.63 mm.; width, 0.36 mm.

From Ithaca, New York State; taken from muskrat by the writer.

Described from four females and one male. This species is quite distinct from the others of the genus on account of its large spines.

***Liponyssus crosbyi* n. sp.** (Plate IV, Fig. 3.)

A moderate-sized, pale yellowish brown species, without prominent hairs or spines.

*Female*.—Mouth-parts prominent. Palpi two-thirds as long as the first pair of legs; mandibles long, slender, when extended reaching the tips of the palpi.

Cephalothorax not demarcated from abdomen, almost nude. Sternal plate slightly broader than long, broadest at its posterior end, and with three pairs of submarginal bristles; all long, straight, and directed backward.

Abdomen about two-thirds as broad as long, evenly rounded behind, and sparsely clothed with fine hairs. Anal plate triangular, slightly

longer than wide, with a small spine near its tip, and a similar spine on each side of the anus. Anus situated about its width from the front margin of the anal plate.

Legs moderate; first pair extending beyond the tips of the palpi by about one-third their length; fourth pair not quite reaching the posterior margin of the abdomen. The first and fourth pairs of legs are subequal in length. The second pair is slightly enlarged. Tarsus of leg I, clothed at its tip with many fine bristles. Pulvilli of all the legs rather large, tarsal claws moderate, strongly curved. Total length of female, 0.58 mm.; width, 0.34 mm.

*Male*.—Not observed.

From Rockport, Missouri; taken from bat, *Vesper subulatus* Say by C. R. Crosby.

Three adult females and one immature specimen obtained. Description made from a single individual, the type specimen. The other adult females labeled as cotypes. This species differs from *Liponyssus americanus* Banks in the shape of its body which is more pear-like, in having much shorter and stouter legs, as well as in several other characters.

Fam. ANALGESIDAE.

**Proctophyllodes trisetosus** n. sp. (Plate IV, Fig. 4.)

A medium-sized, light brown species; with posterior bristles quite prominent.

*Male*.—Mouth-parts extending forward for about one-half the length of the first pair of legs.

Dorsal shield of cephalothorax granular, moderately chitinized, slightly broader than long, and bearing near each side a large tactile bristle which is longer than the shield itself. Epimera of first pair of legs well chitinized, and contiguous at their posterior ends though not fused together. Epimera of second pair of legs well chitinized, crescent-shape, and diverging strongly for the posterior two-fifths of their length.

Dorsal plate of abdomen broadest at its anterior end; about two and one-half times as long as broad, and slightly granular. From the sides of the abdomen just in front of the third pair of legs there extends a long pair of bristles. These bristles are about one-half as long as the abdomen. Genital area inverted U-shaped. Penis sharp, stout, spine-like; extending from the anterior margin of the genital area backward about two-thirds the distance to the bases of anal suckers. Anal suckers strongly chitinized; about one and one-half times as long as they are broad at their bases. Hyaline plates foliaceous, not more than

two-thirds as long as that part of the abdomen behind the fourth pair of legs. Just laterad to the hyaline plates is situated a pair of bristles which extend backwards for about twice the length of the plates. On the posterior corners of the abdomen is situated a pair of very large bristles. These are over one-half as long as the body of the mite. Just in front of this pair of large bristles is a smaller pair about one-third as long.

Legs moderate; fourth pair reaching beyond the tip of abdomen by the entire length of the tarsus. Length of body, 0.28 mm.; width, 0.13 mm.

*Female*.—Body larger and more strongly chitinized than in male. Cephalothorax as broad as long; sides almost parallel. Dorsal shield of cephalothorax granular, two-thirds as broad as the cephalothorax itself. Dorsal bristles situated near the incisions in the dorsal shield for the second pair of legs. They are somewhat longer than the cephalothorax.

Abdomen about twice as long as cephalothorax. Dorsal shield of abdomen rectangular, slightly over twice as long as broad. Posterior tubercles of abdomen rather prominent, as long as the posterior segment from which they extend. The bristles borne by the posterior tubercles are quite stout, each being about one-half as long as the abdomen. Epiandrium crescent-shaped, strongly chitinized and almost one-half as broad as the width of the body at the region where it is situated.

Legs similar to those of the male; fourth pair just reaching the tip of abdomen, excluding the posterior tubercles. Length of body, excluding posterior tubercles, 0.40 mm.; width, 0.16 mm.

From Ithaca, New York; taken from meadow lark, *Sturnella magna* Linn. by H. E. Ewing.

Descriptions made from type specimens. Many males, females, and young collected. The crescent-shaped, or inverted U-shaped, epiandrium, and the shortness of the anal suckers characterize this species from most of the others.

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#### **Lucilia morrilli T.—A Correction (Dipt.).**

On page 112, volume XXV, of the NEWS, what is said under *Lucilia morrilli* must be retracted. It was written when examination of the type and cotypes was impossible. I have since examined these and find that I was mistaken, and that the actual type and cotype material is undoubtedly *Ps. cornicina* F.—CHARLES H. T. TOWNSEND.